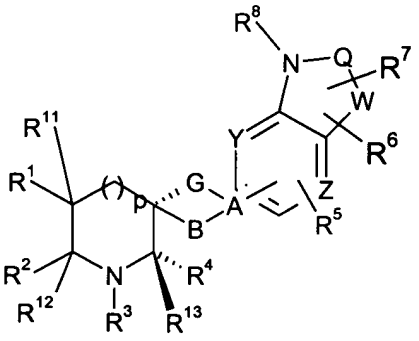
IN THE CLAIMS (37 CFR 1.121 Revised)

1. **(Currently Amended)** A compound of the formula



I

wherein Q is C=NH, $C=CH_2$, C=S, C=O, SO or SO_2;

A is CH, CH_2, $C(C_1\text{-}C_6)$alkyl, $CH(C_1\text{-}C_6)$alkyl, $C(CF_3)$ or $CH(CF_3)$, with the proviso that when B is present, A must be either CH, $C(C_1\text{-}C_6)$alkyl or $C(CF_3)$;

B is absent or is methylene or ethylene;

Y is N and Z is CH, or Y is CH and Z is N;

G is $NH(CH_2)_q$, $S(CH_2)_q$ or $O(CH_2)_q$, wherein q is zero or one;

with the proviso that when q is zero, G is –NH-, -S- or –O-;

W is a one carbon linking group (i.e., methylene) or a saturated or unsaturated two or three carbon linking group, wherein each of the foregoing W groups can optionally be substituted with one substituent R^7 or two substituents R^7 and R^6, or W is a one carbon linking group that <u>is substituted with</u> ~~forms, together with~~ a 2, 3, 4 or 5 carbon chain <u>that, together with W, forms</u> a 3, 4, 5 or 6 membered spiro ring, respectively;

or W is a saturated two carbon chain linking group that forms, together with a separate 1, 2 or 3 carbon chain, a fused 3, 4 or 5 membered ring, respectively;

or W is a saturated two carbon chain linking group, wherein one of the two carbons in the chain forms, together with a separate 2, 3, 4 or 5 carbon chain, a 3, 4, 5 or 6 membered spiro ring, respectively;

p is zero, one or two;

R^3 is selected from hydrogen, COR^9, CO_2R^9, optionally substituted phenyl, optionally substituted heterocyclic rings, and optionally substituted $(C_1\text{-}C_8)$alkyl wherein one of the CH_2 groups of said $(C_1\text{–}C_8)$ alkyl may optionally be replaced with a sulfur, oxygen or carbonyl group and wherein said $(C_1\text{-}C_8)$alkyl can optionally be unsubstituted or substituted with one to three substiutuents independently selected from hydroxy, oxo, phenyl-$(C_1\text{-}C_3)$alkoxy, phenyl, cyano, halo, optionally substituted heterocyclic rings, NR^9COR^{10}, $NR^9CO_2R^{10}$,

$CONR^9R^{10}$, COR^9, CO_2R^9, NR^9R^{10}, and $(C_1\text{-}C_6)$alkoxy optionally unsubstituted or substituted with from one to seven fluorine atoms;

and wherein the heterocyclic rings of R^3 and the heterocyclic ring substituents on the alkyl groups of R^3 are selected, independently, from 3 to 7 membered saturated or unsaturated monocyclic rings containing from 1 to 4 ring heteroatoms, and 8 to 12 membered saturated or unsaturated bicyclic rings containing from 1 to 4 ring heteroatoms, wherein said heteroatoms are selected, independently, from oxygen, nitrogen and sulfur, with the proviso +that there can not be two adjacent ring oxygen atoms or two adjacent ring sulfur atoms in either the monocyclic or bicyclic heterocyclic rings, and with the proviso that heterocyclic rings formed from NR^9R^{10} or $CONR^9R^{10}$ must contain at least one nitrogen atom;

and wherein the heterocyclic rings of R^3 and the heterocyclic ring substituents on the alkyl groups of R^3 can optionally be unsubstituted or substituted with one or more substituents, independently selected from oxo, hydroxy, thioxo, halo, cyano, phenyl, $(CH_2)_mNR^9R^{10}$, NR^9COR^{10}, $(CH_2)_mOR^9$, wherein m is zero, one or two, and $(C_1\text{-}C_6)$alkyl optionally unsubstituted or substituted with one or more substituents, independently selected from halo, CF_3, methoxy and phenyl;

and wherein the phenyl groups of R^3 and the phenyl substituents in the alkyl groups of R^3 can optionally be unsubstituted or substituted with one or more substitutents, independently selected from the group consisting of halo, cyano, nitro, CF_3, $(CH_2)_mNR^9R^{10}$, wherein m is zero, one or two, NR^9COR^{10}, $NR^9CO_2R^{10}$, $CONR^9R^{10}$, $CO_2NR^9R^{10}$, COR^9, CO_2R^9, $(C_1\text{-}C_6)$alkyl optionally substituted with from one to seven fluorine atoms, preferably with from zero to three fluorine atoms, $(C_1\text{-}C_6)$alkoxy optionally substituted with from one to seven fluorine atoms, preferably with from zero to three fluorine atoms, and $(C_2\text{-}C_6)$alkenyl optionally unsubstituted or substituted with from one to seven fluorine atoms;

each of R^1, R^2, R^{11}, R^{12} and R^{13} are selected, independently, from hydrogen and $(C_1\text{-}C_6)$alkyl optionally unsubstituted or substituted with one or more substituents, that are selected independently from hydroxy, oxo, $(C_1\text{-}C_6)$alkoxy and cyano;

or R^1 and R^2, together with the carbon atoms to which they are attached, or R^2 and R^3, together with the carbon and nitrogen to which they are attached, respectively, form a 5 or 6 membered saturated heterocyclic ring containing one or two heteroatoms that are selected, independently, from nitrogen, oxygen and sulfur, with the proviso that said ring can not contain two adjacent oxygen atoms or two adjacent sulfur atoms; or R^1 and R^2, together with the carbons to which they are attached, form a 5 or 6 membered, saturated or unsaturated carbocyclic ring, and wherein said heterocyclic and carbocyclic rings formed by R^1 and R^2 or by R^2 and R^3 can be unsubstituted or substituted with one or more substituents, independently

selected from halo, oxo, NR^9R^{10}, $(C_1\text{-}C_6)$alkyl optionally unsubstituted or substituted with from one to seven fluorine atoms, and (C1-C6)alkoxy optionally unsubstituted or substituted with from one to seven fluorine atoms;

or R^{12} and R^{13}, together with the carbon atoms to which they are attached, form a 5 or 6 membered saturated heterocyclic ring containing one or two heteroatoms that are selected, independently, from nitrogen, oxygen and sulfur, with the proviso that said ring can not contain two adjacent oxygen atoms or two adjacent sulfur atoms, or R^{12} and R^{13}, together with the carbons to which they are attached, form a 5 or 6 membered, saturated or unsaturated carbocyclic ring, and wherein said heterocyclic and carbocyclic rings formed by R^{12} and R^{13} can be unsubstituted or substituted with one or more substituents, independently selected from NR^9R^{10}, halo, phenyl-S-, phenyl-SO-, phenyl-SO_2-, oxo, $(C_1\text{-}C_6)$alkoxy optionally unsubstituted or substituted with from one to seven fluorine atoms, and $(C_1\text{-}C_6)$alkyl optionally substituted with from one to seven fluorine atoms;

with the proviso that no more than one of R^1 and R^2, R^2 and R^3, and R^{12} and R^{13} can form a ring;

R^4 is selected from phenyl, 2-, 3- or 4-pyridyl, 2- or 3-thienyl, and pyrimidyl, wherein R^4 can be optionally substituted with one or more substituents, preferably with zero or one substituent, selected, independently, from halo, $(C_1\text{-}C_6)$alkyl optionally substituted with from one to seven fluorine atoms, preferably with from zero to three fluorine atoms, $(C_1\text{-}C_6)$alkoxy optionally unsubstituted or substituted with from one to seven fluorine atoms, and $(C_2\text{-}C_6)$ alkenyl optionally unsubstituted or substituted with from one to seven fluorine atoms;

R^5 and R^8 are selected, independently, from hydrogen, -SO$(C_1\text{–}C_6)$alkyl, -SO_2-$(C_1\text{-}C_6)$alkyl, -SO-aryl, -SO_2–aryl, CF_3, halo, phenyl, phenyl-$(C_1\text{-}C_2)$alkyl, hydroxy, aryloxy, heteroaryloxy, pyridyl, tetrazolyl, oxazolyl, thiazolyl, $(C_1\text{-}C_6)$alkoxy optionally substituted with from one to seven fluorine atoms, $(C_1\text{-}C_6)$alkyl optionally unsubstituted or substituted with from one to seven fluorine atoms, and $(C_1\text{-}C_6)$alkyl unsubstituted or substituted with one or more substituents, selected, independently, from hydroxy, oxo, $(C_1\text{-}C_6)$alkoxy, phenyl-$(C_1\text{-}C_3)$alkoxy, phenyl, cyano, chloro, bromo, iodo, NR^9R^{10}, NR^9COR^{10}, $NR^9CO_2R^{10}$, $CONR^9R^{10}$, COR^9 and CO_2R^9;

R^6 and R^7 are selected, independently, from -SO$(C_1\text{–}C_6)$alkyl, -SO_2-$(C_1\text{–}C_6)$alkyl, -SO-aryl, -SO_2–aryl, CF_3, halo, phenyl, phenyl-$(C_1\text{-}C_2)$alkyl, hydroxy, aryloxy, heteroaryloxy, pyridyl, tetrazolyl, oxazolyl, thiazolyl, $(C_1\text{-}C_6)$alkoxy optionally unsubstituted or substituted with from one to seven fluorine atoms, $(C_1\text{-}C_6)$alkyl optionally unsubstituted or substituted with from one to seven fluorine atoms, and $(C_1\text{-}C_6)$alkyl substituted with one or more substituents, preferably with from zero to two substituents selected, independently,

from hydroxy, oxo, $(C_1\text{-}C_6)$alkoxy, phenyl-$(C_1\text{-}C_3)$alkoxy, phenyl, cyano, chloro, bromo, iodo, NR^9R^{10}, NR^9COR^{10}, $NR^9CO_2R^{10}$, $CONR^9R^{10}$, COR^9 and CO_2R^9;

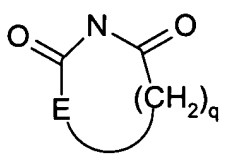
each R^9 and each R^{10} is selected, independently, from hydrogen, $(C_1\text{-}C_6)$alkyl, hydroxy$(C_1\text{-}C_6)$alkyl, phenyl and CF_3;

or R^9 and R^{10}, when R^3 is NR^9R^{10} or $CONR^9R^{10}$, can form, together with the nitrogen to which they are attached, an optionally substituted heterocyclic ring that contains at least one nitrogen atom;

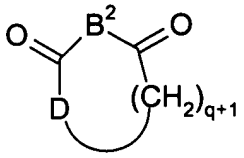
and wherein the phenyl groups in the definition of R^5, R^6, R^7 and R^8 and the phenyl moiety of phenyl $(C_1\text{-}C_2)$alkyl in the definition of R^5, R^6, R^7 and R^8 can optionally be unsubstituted or substituted with one or more substituents, that are selected, independently, from halo, hydroxy, $(C_1\text{-}C_6)$alkoxy optionally unsubstituted or substituted with from one to seven fluorine atoms, preferably with from zero to three fluorine atoms, and $(C_1\text{-}C_6)$alkyl optionally substituted with from one to seven fluorine atoms, preferably with from zero to three fluorine atoms;

or a pharmaceutically acceptable salt thereof.

2. **(Original)** A compound according to claim 1, wherein R^3 is an optionally substituted heterocyclic ring, or an alkyl group substituted with an optionally substituted heterocyclic ring, wherein said heterocyclic ring is selected from the following: pyrimidinyl, benzoxazolyl, 2,3-dihydro-3-oxobenzisosulfonazol-2-yl, morpholin-1-yl, thiomorpholin-1-yl, benzofuranyl, benzothienyl, indolyl, isoindolyl, isoquinolinyl, furyl, pyridyl, isothiazolyl, oxazolyl, triazolyl, tetrazolyl, quinolyl, thiazolyl, and thienyl, and groups of the formulas



and



wherein B^2 and D are selected from carbon, oxygen and nitrogen, and at least one of B^2 and D is other than carbon; E is carbon or nitrogen; q is an integer from 1 to 5; any one of the carbon atoms of said $(CH_2)_q$ and $(CH_2)_{q+1}$ may be optionally substituted with $(C_1\text{-}C_6)$alkyl or $(C_1\text{-}C_6)$ spiroalkyl; and either any one pair of the carbon atoms of said $(CH_2)_q$ and $(CH_2)_{q+1}$ may be bridged by a one or two carbon atom linkage, or any one pair of adjacent carbon atoms of said $(CH_2)_q$ and $(CH_2)_{q+1}$ may form, together with from one to three carbon atoms that are not members of the carbonyl containing ring, a $(C_3\text{-}C_5)$ fused carbocyclic ring.

3. **(Original)** A compound according to claim 1, wherein B is absent and A is CH_2.

4. **(Original)** A compound according to claim 1, wherein Q is a carbonyl group.

5. **(Cancelled)** A compound according to claim 1, wherein Y and Z are both CH.

6. **(Original)** A compound according to claim 1, wherein B is ethylene, A is CH and G is $NHCH_2$.

7. **(Original)** A compound according to claim 1, wherein B is ethylene, A is CH and G is SCH_2.

8. **(Original)** A compound according to claim 1, wherein R^3 is hydrogen.

9. **(Original)** A compound according to claim 1, wherein R^3 is CO_2R^9.

10. **(Original)** A compound according to claim 1, wherein B is absent, G is NH and A is CH_2.

11. **(Original)** A compound according to claim 1, wherein W is ethylene.

12. **(Original)** A compound according to claim 1, wherein R^4 is phenyl.

13. **(Original)** A compound according to claim 1, wherein R^4 is phenyl and R^8 is hydrogen.

14. **(Original)** A compound according to claim 1, wherein p is one.

15. **(Original)** A compound according to claim 1, wherein R^2 is $(C_1\text{-}C_6)$alkyl.

16. **(Original)** A compound according to claim 1, wherein R^2 is $(C_1\text{-}C_6)$alkyl wherein the stereochemical configuration at the chiral carbon to which R^2 is attached is "S".

17. **(Original)** A compound according to claim 1, wherein R^4 is 2-, 3- or 4-pyridyl.

18. **(Original)** A compound according to claim 1, wherein R^2 and R^{12} are selected, independently, from methyl and ethyl.

19. **(Cancelled)**

20. **(Original)** A compound according to claim 3, wherein Q is a carbonyl group.

21. **(Cancelled)**

22. **(Original)** A compound according to claim 2, wherein Q is a carbonyl group.

23. **(Cancelled)**

24. **(Original)** A compound according to claim 1, wherein Q is C=O and W is methylene optionally substituted with one or two substituents independently selected from $(C_1\text{-}C_6)$alkyl and CF_3.

25. **(Original)** A compound according to claim 1, wherein Q is C=O and W is ethylene optionally substituted with one or two substituents independently selected from $(C_1\text{-}C_6)$alkyl and CF_3.

26. **(Original)** A compound according to claim 1, wherein Q is SO.

27. **(Original)** A compound according to claim 1, wherein Q is SO_2.

28. **(Cancelled)**

29. **(Original)** A compound according to claim 1, wherein Q is C=S.

30. **(Original)** A compound according to claim 3 wherein R^8 is hydrogen.

31. **(Original)** A compound according to claim 1 wherein R^3 is a heterocyclic ring.

32. **(Original)** A compound according to claim 1 wherein R^3 is an alkyl group substituted with a heterocyclic ring.

33. **(Original)** A compound according to claim 1 wherein R^3 is an alkyl group substituted with a heterocyclic ring selected from imidazolyl, 5-oxo-4,5-dihydro-1H-[1,2,4]triazol-3-yl, benzoxazol-2-yl, and 5-oxo-pyrrolidin-2-yl.

34. **(Original)** A compound according to claim 1 wherein R^4 is optionally substituted pyridyl.

35. **(Original)** A compound according to claim 1 wherein R^2 and R^{12} are selected from $(C_1\text{-}C_3)$alkyl.

36. **(Original)** A compound according to claim 32 wherein Q is a carbonyl group.

37. **(Original)** A compound according to claim 2 wherein B is ethylene, A is CH and G is $NHCH_2$.

38. **(Original)** A compound according to claim 2 wherein B is ethylene, A is CH and G is SCH_2.

39. **(Original)** A compound according to claim 3 wherein R^3 is hydrogen.

40. **(Original)** A compound according to claim 3 wherein B is ethylene, A is CH and G is $NHCH_2$.

41. **(Original)** A compound according to claim 3 wherein R^3 is CO_2R^9.

42. **(Original)** A compound according to claim 3 wherein G is NH.

43. **(Original)** A compound according to claim 3 wherein W is ethylene.

44. **(Original)** A compound according to claim 3 wherein R^4 is phenyl.

45. **(Original)** A compound according to claim 3 wherein R^4 is phenyl and R^8 is hydrogen.

46. **(Original)** A compound according to claim 3 wherein p is one.

47. **(Original)** A compound according to claim 3 wherein R^2 is $(C_1\text{-}C_6)$alkyl.

48. **(Original)** A compound according to claim 3 wherein R^2 is $(C_1\text{-}C_6)$alkyl wherein the stereochemical configuration at the chiral carbon to which R^2 is attached is "S".

49. **(Original)** A compound according to claim 3 wherein R^4 is 2-, 3- or 4-pyridyl.

50. **(Original)** A compound according to claim 3 wherein R^2 and R^{12} are selected, independently, from hydrogen, methyl, ethyl and propyl.

51. **(Original)** A compound according to claim 3 wherein both R^2 and R^{12} are other than hydrogen.

52-53. **(Cancelled)**

54. **(Original)** A compound according to claim 2 wherein Y is CH and Z is nitrogen.

55. **(Original)** A compound according to claim 3 wherein Q is C=O and W is methylene optionally substituted with one or two substituents independently selected from $(C_1\text{-}C_6)$alkyl and CF_3.

56. **(Original)** A compound according to claim 3 wherein Q is C=O and W is ethylene optionally substituted with one or two substituents independently selected from $(C_1\text{-}C_6)$alkyl and CF_3.

57. **(Original)** A compound according to claim 3 wherein Q is SO.

58. **(Currently amended)** A compound that is selected from isomers and mixtures of isomers of the following compounds, wherein said isomers or mixtures of isomers have the sterochemistry depicted in structural formula I <u>according to claim 1</u>:
6-Methoxy-1-methyl-7-[(2-phenyl-piperidin-3-ylamino)-methyl]-3,4-dihydro-1H-[1,5]naphthyridin-2-one;

6-Methoxy-1-methyl-7-[(6-methyl-2-phenyl-piperidin-3-ylamino)-methyl]-3,4-dihydro-1H-[1,5]naphthyridin-2-one;

7-[(6-Ethyl-2-phenyl-piperidin-3-ylamino)-methyl]-6-methoxy-1-methyl-3,4-dihydro-1H-[1,5]naphthyridin-2-one;

6-Methoxy-1-methyl-7-[(2-phenyl-6-propyl-piperidin-3-ylamino)-methyl]-3,4-dihydro-1H-[1,5]naphthyridin-2-one;

[[and]] or a pharmaceutically acceptable [[salts]] salt thereof.

59. **(Currently amended)** A compound according to claim 1, selected from the group consisting of:

7-[((2S,3S,6S)-6-Isopropyl-2-phenyl-piperidin-3-ylamino)-methyl]-6-methoxy-1-methyl-3,4-dihydro-1H-[1,5]naphthyridin-2-one;

and pharmaceutically acceptable salts thereof.

60-78. **(Cancelled)**